

CHECKLIST OF THE TREEHOPPERS (HEMIPTERA: MEMBRACIDAE) OF GREAT SMOKY MOUNTAINS NATIONAL PARK

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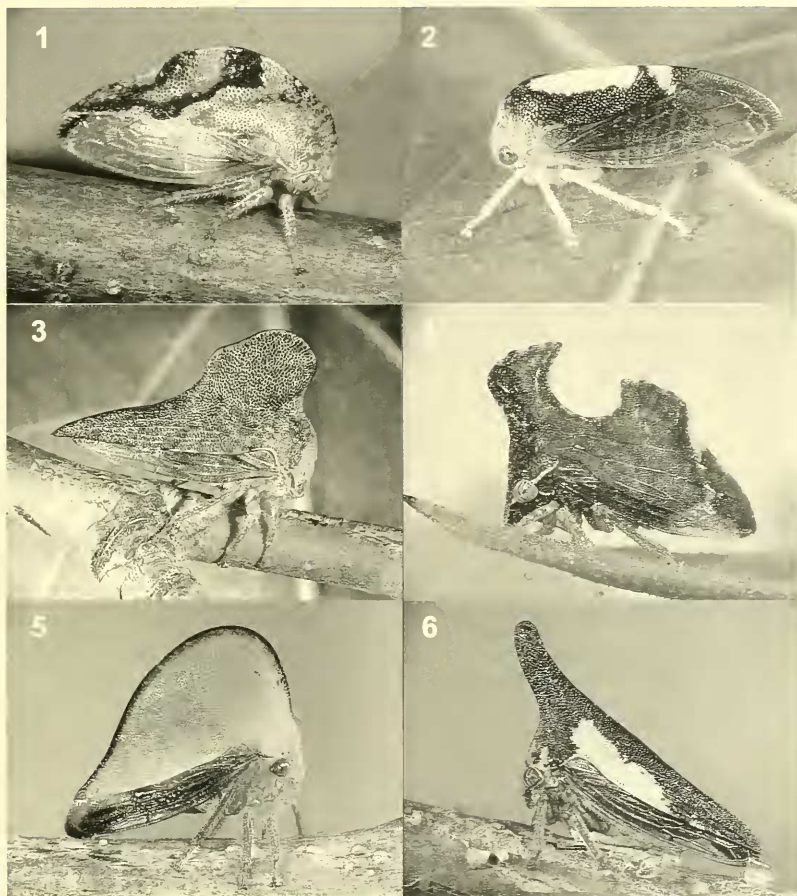
Abstract.—This checklist of treehoppers (Hemiptera: Membracidae) from Great Smoky Mountains National Park documents a total of 53 species in 25 genera, based on examination of museum specimens and 3 collecting trips in association with the All Taxa Biodiversity Inventory (ATBI). The park's treehopper fauna represents roughly half of the treehopper species reported from North Carolina. Twenty-four new county records are given for North Carolina species. Moreover, 28 species are new state records (= first published records) for Tennessee, increasing its known treehopper fauna to 51 species (all listed herein). Fifty-two species are apparently new records for GSMNP. Cades Cove, an expansive meadow region in the western portion of the park, is especially species rich with 35 species, many of which feed on oaks.

Key Words: Membracidae, treehoppers, Great Smoky Mountains National Park, Smokies, ATBI, Tennessee, North Carolina, host plants

Great Smoky Mountains National Park (GSMNP), located in the Southern Appalachian Mountains, is among the most species-rich temperate environments in the world (Pedersen 1999, Brown 2000, Sharkey 2001). The park straddles the North Carolina–Tennessee border, occupying portions of five counties: Haywood and Swain in North Carolina and Blount, Cocke, and Sevier in Tennessee. It ranges in elevation from 256 m to 2,025 m (Clingmans Dome). Although certainly diverse, the precise numbers and kinds of organisms within the park, especially invertebrates, are largely undocumented (Pedersen 1999, Sharkey 2001). Additionally, the diversity of the park is threatened by invasive animals, plants, and diseases (Pederson 1999, Brown

2000, Sharkey 2001). The All Taxa Biodiversity Inventory (ATBI) was created to address this lack of knowledge of native fauna. Its major goal is to document every living organism in the park to provide a benchmark of the biodiversity prior to invasion by non-indigenous organisms (Sharkey 2001). The following checklist represents the first attempt to document the species richness of treehoppers within Great Smoky Mountains National Park.

Treehoppers, known for their interesting shapes (Figs. 1–6) and behaviors, are herbivorous insects common in the eastern deciduous forest (Dietrich et al. 1999) and other biomes worldwide (Wood 1993). Extensive research has been published on the systematics, taxonomy, and biology of the



Figs. 1–6. Representative treehoppers of Great Smoky Mountains National Park. 1, *Cyrtolobus fenestratus*. 2, *Atymna querci*. 3, *Telanona collina*. 4, *Entylia carinata*. 5, *Archasia befragaei*. 6, *Thelia bimaculata*. With the exception of *T. bimaculata*, all the above species are new state records for Tennessee. *C. fenestratus* (♀ shown), *A. querci* (♂), and *T. bimaculata* (♂) are sexually dimorphic in coloration. Photographs by M. S. Wallace and L. L. Deitz.

New World treehoppers (Kopp and Yonke 1973a–c, 1974; Deitz 1975; Deitz and Kopp 1987; Deitz 1989; Deitz and Dietrich 1993; Wood 1993; McKamey 1998; Dietrich et al. 2001). Numerous eastern North

American treehoppers feed on various species in the family Fagaceae, especially oaks (*Quercus* spp.).

North Carolina's treehopper fauna is relatively rich and well known, with at least

Table 1. Collecting sites within Great Smoky Mountains National Park. Some locality records are incomplete because data labels were imprecise.

Sites H-1 to H-11, North Carolina, Haywood County, GSMNP

- H-1. Cataloochee, grass field
- H-2. Cataloochee, Beach Grove School
- H-3. Cataloochee, Palmer Chapel
- H-4. Cataloochee, head of Rough Fork Ridge Trail
- H-5. Cataloochee, head of Big Fork Ridge Trail
- H-6. Chestnut Branch, 1 mi. upstream Ranger Station
- H-7. Cataloochee Creek, at USGS Gaging Station
- H-8. Cataloochee, elevation 853 m
- H-9. Harmon den, Pigeon River
- H-10. Sterling [=Mt. Sterling?]
- H-11. Cataloochee, Cataloochee Watershed, N35°35'10.50" W83°04'53.61", elevation 1382 m

SW-1 to SW-18, North Carolina, Swain County, GSMNP

- SW-1. Hwy-441 at Smokemont Campground, N35°33.14' W83°18.50', elevation 701 m
- SW-2. Beetree Ridge, Thomas Divide Tr., 0.1 mi. S of Newfound Gap Rd.
- SW-3. Hwy-441 at Tow String Road, N35°32.37' W83°17.73', elevation 701 m
- SW-4. Hwy-441, 3.1 mi SE of NC/TN state line
- SW-5. Hwy-441, 7.3 mi. SE of NC/TN state line
- SW-6. Hwy-441 at Collins Creek Picnic Area, elevation 732 m
- SW-7. Clingmans Creek
- SW-8. nr. Shuckstack
- SW-9. nr. bunkhouse at Hazel Creek
- SW-10. Clingmans Dome
- SW-11. Bone Valley Creek
- SW-12. Mings Creek (approx. 0.5 mi. N of Oconaluftee Visitors Center)
- SW-13. Big Cove Road, Malaise Trap Site #1, N35°31.15' W83°17.77'
- SW-14. Big Cove Road, Malaise Trap Site #2, N35°31.12' W83°17.45'
- SW-15. Big Cove Road, Malaise Trap Site #3, N35°30.76' W83°17.89'
- SW-16. Big Cove Road, Malaise Trap Site #4, N35°30.64' W83°17.87'
- SW-17. Andrews Bald, Noland Watershed, N35°32'19.77" W83°29'39.02", elevation 1757 m
- SW-18. Clingmans Dome, Noland Watershed, N35°33'37.14" W83°29'43.40", elevation 1944 m

Sites B-1 to B-22, Tennessee, Blount County, GSMNP

- B-1. Cades Cove, N old field
 - B-2. Cades Cove, Methodist Church, N35°36.44' W83°48.99', elevation 549 m
 - B-3. Cades Cove, Primitive Baptist Church, N35°36.14' W83°48.82', elevation 549 m
 - B-4. Cades Cove, Hyatt Road, N35°36.28' W83°49.36', elevation 533 m
 - B-5. Cades Cove, Missionary Baptist Church, N35°36.43' W83°49.63', elevation 573 m
 - B-6. Cades Cove, Loop Road, near entry donation box, N35°36.45' W83°47.22', elevation 561 m
 - B-7. Cades Cove, Sparks Lane
 - B-8. Cades Cove, E of Cooper Road Trail, N35°36.30' W83°50.07', elevation 564 m
 - B-9. Cades Cove Campground, N35°36.17' W83°46.44', elevation 573 m
 - B-10. Cades Cove
 - B-11. Cades Cove, Gregory Place
 - B-12. Cades Cove, W of John Oliver Place, N35°36.34' W83°47.88', elevation 549 m
 - B-13. Cades Cove, Abrams Creek
 - B-14. Cades Cove, 0.3 km E of Primitive Baptist Church
 - B-15. Cades Cove West
 - B-16. Cades Cove, Cable Mill Visitor Center, N35°35.28' W83°50.52', elevation 536 m
 - B-17. Foothills Parkway, N Look Rock
 - B-18. along Lynn Camp Prong, elevation 649 m
 - B-19. Rich Mountain Trail/Road
 - B-20. Cades Cove, Abrams Watershed, N35°35'31.05" W83°50'16.94", elevation 520 m
 - B-21. Cades Cove, N35.60° W83.78°, elevation 576 m
 - B-22. Tremont Env[ironmental] Sta[tion]
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Table I. Continued.

 Sites C-1 to C-5, Tennessee, Cocke County, GSMNP

- C-1. Albright Grove, Indian Camp Watershed, N35°43'59.76" W83°16'50.23", elevation 1034 m
 C-2. Snakeden Ridge, Cosby Watershed, N35°44'36.23" W83°13'11.99", elevation 993 m
 C-3. Cosby Ranger Station, N35.78° W83.21°, elevation 533 m
 C-4. Sutton Ridge Overlook, Mt. Cammerer
 C-5. Cosby

Sites SE-1 to SE-16, Tennessee, Sevier County, GSMNP

- SE-1. Sugarlands Visitor Center, elevation 488 m
 SE-2. Park Headquarters
 SE-3. Mount LeConte
 SE-4. Twin Creeks Natural Resources Center, N35°41'05.97" W83°29'56.61", elevation 594 m
 SE-5. Greenbrier [=Greenbriar Pinnacle?]
 SE-6. Mid. Prong Little Pigeon River, nr. Park Boundary, elevation 419 m
 SE-7. Grotto Falls trailhead, N35°40' W83°28', elevation 687 m
 SE-8. Little River Road, 3.1 mi. SW of Visitors Center
 SE-9. Baskins Creek Trail
 SE-10. Hwy-441
 SE-11. Brushy Mountain, Middle Prong Little Pigeon Watershed, N35°40'35.64" W83°25'50.89", elevation 1467 m
 SE-12. Goshen Prong, East Prong Little Pigeon Watershed, N35°36'38.22" W83°32'33.77", elevation 895 m
 SE-13. Indian Gap, West Prong Little Pigeon Watershed, N35°36'39.00" W83°26'37.44", elevation 1672 m
 SE-14. Foothills Parkway, Wears Valley
 SE-15. Elkmont
 SE-16. nr. Gatlinburg
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89 confirmed species and another 13 species reported but not confirmed by voucher material (Dietrich et al. 1999). By comparison, Tennessee's fauna is poorly documented with only 23 membracid species reported in the literature (Lawson 1922; Funkhouser 1927; Ball 1931; Meyer 1937; Metcalf and Wade 1965; Kopp and Yonke 1973a-c, 1974 [distribution maps])—of which only two species were listed with specific locality data (Meyer 1937).

With the exception of *Helonica excelsa* (Fairmaire 1846) (Wallace and Deitz 1999), we have found no published records of treehoppers from GSMNP, although numerous identified specimens were present in the park's collection. Whittaker (1952) listed the number of specimens (but not species) he collected from the family Membracidae in his study of foliar insects of GSMNP. The objectives of the present project were to investigate the species richness of tree-

hoppers in the park and to provide an authoritative checklist of the known species.

MATERIALS AND METHODS

The treehopper species records listed in the Results and Discussion section are based on specimens in the following collections: the North Carolina State University Insect Collection (NCSU), Raleigh; Museum Collection of Great Smoky Mountains National Park (GSMNP [= GSMNP Collection]), Gatlinburg, Tennessee; Department of Zoology and Entomology Collection, University of Tennessee (ECUT), Knoxville; and the National Museum of Natural History (USNM), Smithsonian Institution, Washington, D.C. (collection codons follow Arnett et al. 1993). Many specimens deposited at GSMNP were collected by Dmitri Novikov who surveyed the park's treehoppers in 1995. Also, some specimens were collected at UV-lights, Malaise traps,

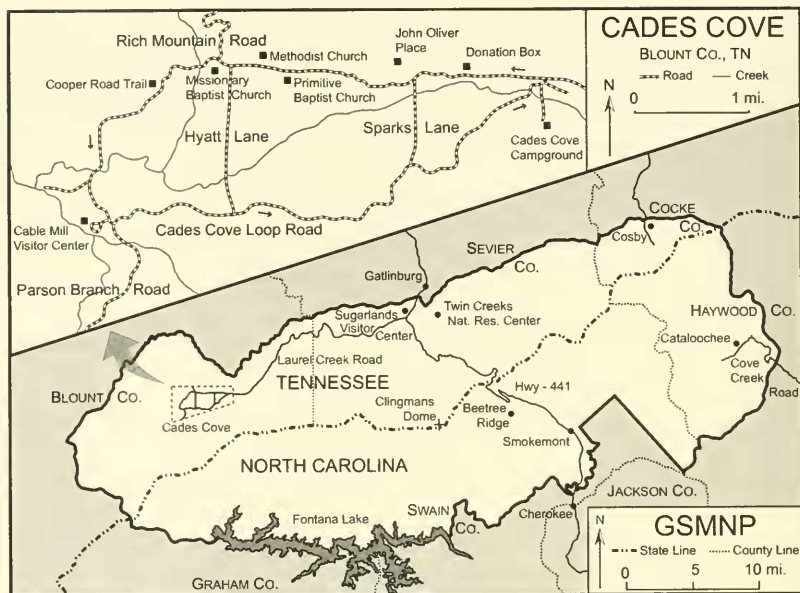


Fig. 7. Diagrammatic map of Great Smoky Mountains National Park showing state and county borders, with selected details of Cades Cove. Delineated by K. H. Spieker.

or insecticidal logging of *Quercus rubra* L. Most of the specimens deposited at NCSU are from recent collecting by the authors in May 1999, June 2000, and October 2001 in association with the ATBI. A majority of our specimens were collected by sweeping and beating foliage and branches using sweep nets and by hand picking. No attempt has been made to compare the effectiveness of various collecting methods.

Species records are based on adult and nymphal specimens and are organized alphabetically by genus and species. For each species, localities from which the specimens were collected are listed, organized by state, county, and the site codes listed in Table 1. Site descriptions were compiled from specimen labels and major sites are indicated in Fig. 7 (sites from some early specimens were too imprecise to map). In a few instances, data not explicitly stated

on the labels, such as "Malaise trap," is indicated in square brackets by the authors if known. Data on the date(s) of collection, sex, host plant(s), and site of deposition (collection) are listed for each site record when available. Host plant nomenclature is based on Dietrich et al. (1999; see host index, pp. 258–261) who listed the common and scientific names for hosts of North Carolina treehoppers and on Radford et al. (1968). Hosts from which both nymphs and adults are reported are likely true hosts; hosts from which only adults are known are less certain. The sex could not be determined for a number of specimens with broken or parasitoid-damaged abdomens. Metcalf and Wade (1965), Kopp and Yonke (1973a–c, 1974), McKamey (1998), and Dietrich et al. (1999) were used to verify nomenclature, check synonymies, and identify new state and county records. The pho-

tographs of live treehoppers (Figs. 1–6) were made using an MTI® DC330E digital video camera, Image Pro Plus® version 3.0, and Adobe Photoshop® version 5.0. The term “new record” is used here in the sense of “the first published record” rather than the “first occurrence” or “first collection” of a species. Undoubtedly, most of the species listed here have flourished in the park for a very long time.

RESULTS AND DISCUSSION

Our examination of museum specimens and three seasons of collecting in association with the ATBI produced a total of 53 species in 25 genera from the park. These records represent 60% of the treehopper species known (at least 89) in North Carolina (Dietrich et al. 1999). None represented new species records for the state, but 24 species are noted as new county records for North Carolina. Twenty-eight species are noted as new state records for Tennessee. A total of 51 treehoppers are now recorded for Tennessee, 47 given in the checklist below and 4 others not yet found in the park: *Cyrtolobus fuliginosus* (Emmons 1854), *Helixia mexicana* Stål 1869, *Stictocephala taurina* (Fitch 1856), and *Tortistilus trilineatus* (Funkhouser 1918) (Funkhouser 1927, Ball 1931, Kopp and Yonke 1973a–c). All records from Blount, Cocke, and Sevier Counties, Tennessee, appear to be the first published records for these counties (not individually noted as new county records in the checklist). Of the 53 treehoppers listed below, 52 are apparently the first published records for GSMNP. *Helonica excelsa*, previously recorded from the park (Wallace and Deitz 1999), is not yet known from North Carolina.

Treehoppers are known from 72 sites in the park (Table 1, Fig. 7), notably Cades Cove (TN: Blount County), Cataloochee (NC: Haywood Co.), Cosby (TN: Cocke Co.), and several sites off Hwy-441 (NC: Swain and TN: Sevier counties), including Smokemont Campground (NC: Swain Co.). Thirty-five species were collected from

sites within Cades Cove, toward the park's western border (12 of these species have yet to be collected elsewhere in the park).

Although the genera *Entylia* Germar, *Microtalis* Fowler, and *Publilia* Stål were collected primarily from herbaceous plants, 13 treehopper genera were collected from various oak species. Nearly half of the North Carolina treehopper fauna are known to feed on plants within the Fagaceae, especially oaks (Dietrich et al. 1999). Based on our collecting in the eastern United States, *Cyrtolobus* Goding (represented by 9 species in this checklist), *Ophiderma* Fairmaire, *Smilia* Germar, and *Xantholobus* Van Duzee feed exclusively on oaks (Dietrich et al. 1999, MJR unpublished observations). Although Wood (1993) reported that *Platycoctis vittata* (Fabricius) is also restricted to oaks, MJR has collected populations, including nymphal aggregations, on *Betula*, *Castanea*, *Fagus*, and *Platanus*.

Cades Cove (Fig. 7) is an ideal habitat for treehoppers because much of its area is open grassland with oaks occurring singly in open fields, along roadsides, in association with restored historic structures, and at the edge of open fields and forests. Treehoppers are thought to show positive phototaxis on their host plants (Johnson and Freytag 1997) and thus are often collected towards the tips of branches or on other areas of the plant exposed to sunlight.

Most treehoppers were collected from branches and foliage well within the reach of ordinary collecting nets. Attempts to collect from areas of continuous forest were limited due to the height of the foliage in these areas. Thus, the relative distribution and numbers of treehoppers listed in this study, especially the many species collected in Cades Cove, are likely proportional to the intensity of our collecting efforts in particular areas. Indeed, in an early study of foliar insects of the Smokies, Whittaker (1952) collected 21 membracid specimens (unidentified) from various habitats in the park including “cove forest, oak-chestnut forest, heath bald, pine forest, spruce forest,

and pine heath." Johnson and Freytag (1997), using sticky traps, found treehoppers to be most commonly associated with the top and middle levels of pin oak canopies in Kentucky. Therefore, the potential for discovering more species in various habitats within the park and at higher levels within the various host plants is appreciable. Notably, species such as *Archasia auriculata* (Fitch 1851), *Cyrtolobus tuberosus* (Fairmaire 1846), *Ophiderma grisea* Woodruff 1919, and *Telamona extrema* Ball 1903 are not reported in Tennessee or GSMNP, yet they occur commonly in neighboring states (Kopp and Yonke 1973a-c, 1974; Dietrich et al. 1999) and thus are likely to occur in the park.

CHECKLIST OF THE TREEHOPPERS OF GREAT SMOKY MOUNTAINS NATIONAL PARK

- Acutalis tartarea* (Say 1830). TN: Blount County.: Site B-1 (see Table 1): 11 July 1995, 3 ♀, 2 ♂ (GSNP). Sevier Co.: Site SE-1: 27 Sept. 1982, 1 ♀ (GSNP). Site SE-16: 25 June 1947, 1 ♀, on *Erigeron* sp. (NCSU).
- Archasia bellfragae* Stål 1869. Fig. 5. TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 3 ♀, 1 ♂, on *Quercus alba* L. and *Q. falcata* Michaux (NCSU). Site B-3: 28 May 1999, 2 ♀, 1 ♂, on *Q. alba* (NCSU). Site B-4: 15 June 2000, 2 ♂, 1 ♀, on *Platanus occidentalis* L. and *Robinia pseudoacacia* L. (GSNP, NCSU). Site B-21: 20 May 2001, 1 ♀ (GSNP).
- Azymna castaneae* (Fitch 1851). NC: Swain Co.: Site SW-10: 21 June 1941, 1 ♂ (USNM). TN (NEW STATE RECORD): Blount Co.: Site B-19: 15 May 1995, 3 nymphs, on *Castanea dentata* (Marshall) Borkh.: 8 June 1995, 7 ♀, 16 ♂, on *C. dentata*; 7 July 1995, 1 ♀ (GSNP).
- Azymna querci* (Fitch 1851). Fig. 2. NC: Swain Co. (NEW COUNTY RECORD): Site SW-1: 14 June 2000, 1 ♀, on *Quercus* sp. (NCSU). Site SW-14: 19-26 May 2001, 2 ♀, [Malaise trap] (GSNP). Site SW-17: 3-17 July 2001, 1 ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-9: 14 June 2000, 1 ♀, on *Q. sp.* (NCSU). Site B-19: 31 May 1994, 1 ♂, on *Q. rubra*, insecticidal fogging (ECUT).
- Cyrtolobus flavolatus* Woodruff 1924. TN (NEW STATE RECORD): Blount Co.: Site B-5: 15 June 2000, 1 ♀, on *Q. stellata* Wangenh. (NCSU). Site B-8: 15 June 2000, 1 ♀, on *Q. alba* (NCSU). Site B-10: 14 June 1995, 4 ♀, on *Q. alba* (GSNP). Cocke Co.: Site C-3: 16 May 2001, 1 ♀ (GSNP); 17 May 2001, 1 ♂ (GSNP).
- Campylenchia latipes* (Say 1824). NC: Haywood Co.: Site H-9: 24 June 1995, 1 ♀, 1 ♂, sweeping; 13 July 1995, 1 ♀, 1 ♂, sweeping (GSNP). Swain Co.: Site SW-11: 21-24 July 1964, 2 ♀, 7 ♂ (NCSU). Site SW-16: 21-28 July 2001, 1 ♂, [Malaise trap] (GSNP). TN: Blount Co.: Site B-20: 30 July-Aug. 2001, 1 ♂, [Malaise trap] (GSNP). Sevier Co.: Site SE-1: 21 May 1943, 1 nymph (GSNP). Site SE-3: 1 July 1959, 1 ♀ (GSNP).
- Carynota mera* (Say 1830). TN: Blount Co.: Site B-2: 28 May 1999, 1 nymph, on *Carya* sp. (NCSU).
- Cyrtolobus arcuatus* (Emmons 1854). TN: Blount Co.: Site B-20: 21 May 2001, 1 ♀, [Malaise trap] (GSNP). Cocke Co.: Site C-3: 16 May 2001, 1 ♀ (GSNP).
- Cyrtolobus auroreus* Woodruff 1924. TN (NEW STATE RECORD): Blount Co.: Site B-19: June 1995, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT); 8 June 1995, 1 ♂, on *Quercus* sp. (GSNP). Sevier Co.: Site SE-4: 25 May 2000, 1 ♂, [Malaise trap] (GSNP).
- Cyrtolobus fenestratus* (Fitch 1851). Fig. 1. NC: Haywood Co. (NEW COUNTY RECORD): Site H-10: 17 June 1994, 1 ♀, 1 ♂, on *Quercus rubra*, insecticidal fogging (ECUT). Swain Co. (NEW COUNTY RECORD): Site SW-2: 10 June 1994, 4 ♀, 1 ♂, 1 [sex?], on *Q. rubra*, insecticidal fogging (ECUT, GSNP). Site SW-17: 3-17 July 2001, 1 ♀, [Malaise trap] (GSNP). Site SW-18: 3-17 July 2001, 1 ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-9: 14 June 2000, 1 ♀, on *Q. sp.* (NCSU). Site B-19: 31 May 1994, 1 ♂, on *Q. rubra*, insecticidal fogging (ECUT).
- Cyrtolobus flavolatus* Woodruff 1924. TN

- (NEW STATE RECORD): Blount Co.: Site B-10: 10 June 1995, 1 ♀, on *Quercus alba* (GSNP).
- Cyrtolobus fuscipennis* Van Duzee 1908. NC: Swain Co. (NEW COUNTY RECORD): Site SW-1: 29 May 1999, 1 ♀, on *Quercus alba* (NCSU). Site SW-13: 30 June to 7 July 2001, 1 ♀, [Malaise trap] (GSNP). Site SW-14: 19–26 May 2001, 1 ♀, [Malaise trap]; 7 July 2001, 1 ♀, [Malaise trap]; 21–28 July 2001, 1 ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-9: 14 June 2000, 1 ♀, 2 ♂, on *Q. sp.*, blacklighting; 15 June 2000, 1 ♂, blacklighting (NCSU). Site B-10: 14 June 1995, 1 ♀, on *Q. stellata* (GSNP). Site B-11: 8 June 1995, 1 ♀, on *Q. alba* (GSNP). Coker Co.: Site C-2: 9–22 May 2001, 1 ♂, [Malaise trap] (GSNP). Site C-3: 16 May 2001, 1 ♀ (GSNP).
- Cyrtolobus maculifrontis* (Emmons 1854). NC: Swain Co. (NEW COUNTY RECORD): Site SW-17: 3–17 July 2001, 1 ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 3 ♀, 1 ♂, on *Quercus alba* and *Q. stellata*; 15 June 2000, 3 ♀, 1 ♂, on *Q. sp.* (NCSU). Site B-5: 15 June 2000, 3 ♀, 7 ♂, on *Q. stellata* and *Q. sp.* (GSNP, NCSU). Site B-6: 28 May 1999, 1 ♀, on *Q. alba* (NCSU). Site B-9: 14 June 2000, 1 ♂, blacklighting (NCSU). Site B-19: 31 May 1994, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT).
- Cyrtolobus pallidifrontis* (Emmons 1854). NC: Swain Co. (NEW COUNTY RECORD): Site SW-18: 6–25 June 2001, 2 ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-3: 15 June 2000, 2 ♀, on *Quercus alba* (NCSU). Site B-5: 15 June 2000, 1 ♀, on *Q. alba* (NCSU). Site B-7: 28 May 1999, 1 ♂, on *Q. alba* (NCSU). Site B-8: 15 June 2000, 1 ♀, on *Q. alba* (NCSU). Site B-9: 14 June 2000, 2 ♀, 1 ♂, on *Q. sp.* (NCSU). Site B-10: 10 June 1995, 1 ♀, on *Q. alba*; 14 June 1995, 4 ♀, 1 ♂, on *Q. alba* (GSNP). Site B-19: 31 May 1994, 1 ♀, 1 ♂, on *Q. rubra*, insecticidal fogging (ECUT); 8 June 1995, 1 ♂, 1 [sex?], on *Q. rubra*, insecticidal fogging (ECUT). Sevier Co.: Site SE-4: 8–15 Oct. 2001, 1 ♀, [Malaise trap] (GSNP). Site SE-12: 22 Oct.–5 Nov. 2001, 1 ♀, [Malaise trap] (GSNP).
- Cyrtolobus togatus* Woodruff 1924. NC: Swain Co. (NEW COUNTY RECORD): Site SW-3: 14 June 2000, 1 ♀, on *Quercus sp.* (NCSU).
- Cyrtolobus vau* (Say 1830). NC: Haywood Co.: Site H-11: 20 Aug.–11 Sept. 2001, 3 ♀, [Malaise trap] (GSNP). Swain Co. (NEW COUNTY RECORD): Site SW-1: 14 June 2000, 1 [sex?], on *Quercus sp.* (NCSU). Site SW-17: 3–17 July 2001, 1 ♂, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-8: 15 June 2000, 1 ♀, on *Q. alba* (NCSU). Site B-9: 14 June 2000, 1 ♀, 1 ♂, on *Q. sp.*, blacklighting; 15 June 2000, 1 ♀, on *Q. alba* (NCSU). Site B-10: 10 June 1995, 2 ♀, on *Q. alba* and *Ostrya virginiana* (Miller) K. Koch; 14 June 1995, 1 ♀, on *Q. alba* (GSNP). Site B-19: 8 June 1995, 2 ♂, on *Q. sp.*; 7 July 1995, 1 ♀ (GSNP). Sevier Co.: Site SE-4: 25 May 2000, 1 ♀, [Malaise trap] (GSNP).
- Euchenopa binotata* (Say 1824) complex. NC: Swain Co. (NEW COUNTY RECORD): Site SW-9: 14 Oct. 1986, 1 ♀, sweeping (GSNP). TN: Blount Co.: Site B-10: 2 July 1995, 1 ♀, 3 ♂, on *Liriodendron tulipifera* L. (GSNP). Site B-12: 15 June 2000, 1 ♀, 3 ♂, on *Robinia pseudoacacia* (NCSU). Coker Co.: Site C-1: 14 Nov. 2000, 1 ♀, [Malaise trap] (GSNP).
- Entylia carinata* (Forster 1771). Fig. 4. NC: Haywood Co.: Site H-9: 9 June 1995, 2 ♂, on *Betula nigra* L. (GSNP). Swain Co.: Site SW-1: 13 Oct. 2001, 3 ♀, 2 ♂, on *Eupatorium* (as Joe-pye-weed) sp. and *Solidago sp.* (NCSU). Site SW-5: 29 May 1999, 1 ♀, 1 ♂, on *Erigeron sp.* (NCSU). Site SW-11: 21–24 June 1964, 5 ♀, 2 ♂ (NCSU). Site SW-16: 9–16 June 2001, 1

- ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-3: 28 May 1999, 7 ♀, on *Verbesina alternifolia* (L.) Britton ex Kearney (NCSU). Site B-5: 14 Oct. 2001, 1 ♀, on *V. alternifolia* (NCSU). Site B-6: 28 May 1999, 3 ♀, 3 ♂, on *Quercus alba*, sweeping, sweeping weeds (NCSU). Site B-7: 28 May 1999, 1 ♀, on *V. sp.*: 14 Oct. 2001, 3 ♀, *V. alternifolia* (NCSU). Site B-10: 19 April 1995, 1 ♀ on *V. alternifolia*: 26 April 1995, 2 ♀, on *Acer rubrum* L. (GSNP). Site B-15: 19 April 1995, 3 ♀, 5 ♂, on grass (GSNP). Site B-20: 21 May 2001, 2 ♀, [Malaise trap] (GSNP). Sevier Co.: Site SE-1: 21 May 1943, 1 ♀ (GSNP). Site SE-2: 15 June 1950, 1 ♀ (GSNP).
- Glossonotus univittatus* (Harris 1841). TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 1 ♀, on *Quercus falcata* (NCSU). Site B-13: 13 June 1981, 1 ♂ (GSNP).
- Hadrophallus borealis* (Fairmaire 1846). NC: Swain Co.: Site SW-11: 21–24 July 1964, 1 ♀, 2 ♂ (NCSU). TN: Sevier Co.: Site SE-4: 3 July 1995, 1 ♀ (GSNP).
- Helonica excelsa* (Fairmaire 1846). TN: Blount Co.: Site B-2: 28 May 1999, 1 ♀, on *Quercus alba* (NCSU). [First reported from GSMNP by Wallace and Deitz (1999) as *Helonica* treehopper].
- Microcentrus caryae* (Fitch 1851). TN (NEW STATE RECORD): Blount Co. Records: Site B-2: 14 Oct. 2001, 1 ♀, on *Carya* sp. (NCSU).
- Microcentrus perditus* (Amyot & Serville 1843). NC: Swain Co. (NEW COUNTY RECORD): Site SW-1: 29 May 1999, 1 ♀, *Quercus* sp. (NCSU). Site SW-3: 14 June 2000, 1 ♂, *Q. sp.* (NCSU). Site SW-14: 30 June to 30 July 2001, 1 ♂, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-2: 15 June 2000, 1 ♀, on *Q. sp.* (NCSU). Site B-3: 15 June 2000, 1 ♀, on *Q. alba* (NCSU). Site B-8: 15 June 2000, 2 ♀, 3 ♂, on *Q. alba* (NCSU). Site B-10: 10 June 1995, 2 ♂, on *Q. alba*: 14 June 1995, 3 ♀, on *Q. alba*: 15 June 1995, 1 ♀, 1 ♂, on *Q. alba* (GSNP). Site B-16: 15 June 2000, 1 ♀, *Q. alba* (NCSU).
- Micrutalis calva* (Say 1830). NC: Swain Co.: Site SW-11: 21–24 June 1964, 4 ♀ (NCSU). Site SW-15: 9 July 1999, 1 ♀, [Malaise trap] (GSNP). TN: Blount Co.: Site B-2: 28 May 1999, 1 ♀, on *Quercus alba* (NCSU). Site B-5: 15 June 2000, 1 ♀, sweeping (NCSU). Site B-6: 28 May 1999, 1 ♀, on *Q. alba* (NCSU). Site B-7: 28 May 1999, 1 ♂, on *Robinia pseudoacacia* (NCSU). Site B-10: 24 May 1995, 1 ♂: 10 June 1995, 1 ♂: 14 June 1995, 1 ♀ (GSNP). Site B-16: 15 June 2000, 1 ♀, sweeping meadow (NCSU). [First recorded for TN in Davidson Co. (Meyer 1937).]
- Micrutalis dorsalis* (Fitch 1851). NC: Swain Co.: Site SW-11: 21–24 July 1964, 1 ♀, 2 ♂ (NCSU).
- Ophiderma defuncta* Woodruff 1919. NC: Swain Co. (NEW COUNTY RECORD): Site SW-2: 10 June 1994, 1 ♀, 1 ♂, on *Quercus rubra*, insecticidal fogging (ECUT). TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 1 ♀, on *Q. falcata* (NCSU). Site B-7: 28 May 1999, 1 ♀, on *Q. imbricaria* Michaux (NCSU). Site B-12: 15 June 2000, 1 ♂ (NCSU). Site B-19: 31 May 1994, 3 ♀, 2 ♂, 1 [sex ?], on *Q. rubra*, insecticidal fogging (ECUT). Cocke Co.: Site C-3: 16 May 2001, 1 ♂ (GSNP). Sevier Co.: Site SE-4: 25 May 2000, 2 ♀, [Malaise trap] (GSNP).
- Ophiderma evelyna* Woodruff 1919. TN: Blount Co.: Records: Site B-2: 28 May 1999, 3 ♀, 1 ♂, on *Quercus falcata*: 15 June 2000, 6 ♀, on *Q. sp.* (GSNP, NCSU).
- Ophiderma flava* Goding 1893. NC: Haywood Co.: Site H-10: 17 June 1993, 4 ♂, on *Quercus rubra*, insecticidal fogging: 22 July 1993, 1 ♀, on *Q. rubra*, insecticidal fogging: 12 Aug. 1993, 1 ♀, on *Q. rubra*, insecticidal fogging: 17 June 1994, 1 ♀, on *Q. rubra*, insecticidal fogging: 1 July 1994, 1 ♂, on *Q. rubra*, in-

- secticidal fogging (ECUT). Swain Co. (NEW COUNTY RECORD): Site SW-2: 1 Sept. 1992, 1 ♀, on *Q. rubra*, insecticidal fogging; 23 July 1993, 1 ♀, on *Q. rubra*, insecticidal fogging; 9 Aug. 1993, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT); 10 June 1994, 4 ♀, 15 ♂, on *Q. rubra*, insecticidal fogging (ECUT, GSNP). Site SW-17: 3–17 July 2001, 1 ♂, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-19: 2 June 1993, 2 ♀, on *Q. rubra*, insecticidal fogging; 18 June 1993, 3 ♀, on *Q. rubra*, insecticidal fogging; 31 May 1994, 4 ♀, 3 ♂, on *Q. rubra*, insecticidal fogging; 26 Aug. 1994, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT). Cocke Co.: Site C-3: 16 May 2001, 2 ♂; 18 May 2000, 1 ♂ (GSNP).
- Ophiderma flavicephala* Goding 1893. NC: Swain Co. (NEW COUNTY RECORD): Site SW-1: 29 May 1999, 1 ♀, sweeping (NCSU). Site SW-6: 29 May 1999, 1 ♀, on *Quercus* sp. (NCSU).
- Ophiderma pubescens* (Emmons 1854). TN (NEW STATE RECORD): Blount Co.: Site B-19: 31 May 1994, 1 ♀, on *Quercus rubra*, insecticidal fogging (ECUT).
- Ophiderma salamandra* Fairmaire 1846. NC: Haywood Co. (NEW COUNTY RECORD): Site H-10: 1 July 1994, 1 ♂, on *Quercus rubra*, insecticidal fogging (ECUT). Swain Co. (NEW COUNTY RECORD): Site SW-13: 9–16 June 2001, 1 ♂, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-19: 2 June 1993, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT).
- Platycotis vittata* (Fabricius 1803). NC: Haywood Co.: Site H-2: 29 May 1999, 1 ♀, on *Quercus* sp. (NCSU). Site H-3: 29 May 1999, 1 ♀, on *Liriodendron tulipifera* (NCSU). Site H-6: 5 June 1986, 1 ♀ (GSNP). Site H-7: 30 May 1990, 1 ♂ (GSNP). Site H-11: 26 Mar. 2001, 1 ♀, [Malaise trap] (GSNP). Swain Co.: Site SW-1: 29 May 1999, 1 ♀, 2 ♂, on *Q. sp.*; 13 Oct. 2001, 1 ♂, on *Q. falcata* (NCSU). Site SW-2: 1 Sept. 1992, 2 ♀, on *Q. rubra*, insecticidal fogging; 5 Oct. 1993, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT); 15 July 1994, 1 ♀, on *Q. rubra* (GSNP). Site SW-7: 28 June 1995, 1 ♂, on *Betula alleghaniensis* Britton (GSNP). Site SW-14: 21–28 June 2001, 1 ♂, [Malaise trap] (GSNP). Site SW-17: 12 Nov. 2000, 1 ♀, [Malaise trap]; 3–17 July 2001, 1 ♂, [Malaise trap] (GSNP); 9–24 Oct. 2001, 5 ♀, 3 ♂, [Malaise trap] (GSNP); 8–24 Nov. 2001, 1 ♀, [Malaise trap] (GSNP). Site SW-18: 13 Nov. 2000, 1 ♀, [Malaise trap]; 24 May–6 June 2001, 1 ♀, [Malaise trap]; 6–25 June 2001, 1 ♀, [Malaise trap] (GSNP). TN: Blount Co.: Site B-2: 28 May 1999, 1 ♀, on *Q. falcata* (NCSU). Site B-3: 28 May 1999, 22 ♀, 19 ♂, on *Q. stellata* (NCSU). Site B-5: 14 Oct. 2001, 6 ♀, 1 ♂, 5 nymphs, on *Q. alba* and *Q. stellata* (NCSU). Site B-6: 14 Oct. 2001, 7 ♀, 3 ♂, 7 nymphs, on *Platanus occidentalis* and *Q. imbricaria* (NCSU). Site B-7: 28 May 1999, 2 ♀, 1 ♂, on *Q. alba* (NCSU). Site B-8: 15 June 2000, 2 ♀, on *Q. alba* (NCSU). Site B-10: 8 June 1995, 1 ♀, on *Q. alba* (GSNP). Site B-11: 8 June 1995, 2 ♀, 1 ♂, on *Q. alba* (GSNP). Site B-14: 14 Oct. 2001, 1 ♂, on *Q. alba* (NCSU). Site B-17: 15 June 1995, 1 ♀ (GSNP). Site B-19: 8 June 1995, 1 ♂, on *Q. velutina* Lam.: 7 July 1995, 1 ♀, on *Q. alba* (GSNP). Site B-20: 14–26 Feb. 2001, 1 ♂, [Malaise trap] (GSNP). Cocke Co.: Site C-1: 14 Nov. 2000, 1 ♀, [Malaise trap]; 19 Jan. 2001, 1 ♂, [Malaise trap] (GSNP); 8–19 June 2001, 1 ♂, [Malaise trap] (GSNP); 27 Sept.–16 Oct. 2001, 1 ♂, [Malaise trap] (GSNP). Site C-2: 13 Dec. 2000, 1 ♂, [Malaise trap]; 30 Jan.–16 Feb. 2001, 1 ♀, [Malaise trap] (GSNP). Site C-4: 2 Oct. 1995, 6 nymphs, on *Castanea dentata* (GSNP). Site C-5: 27 Sept. 2000, 1 ♀ (GSNP). Sevier Co.: Site SE-4: 3 July 1995, 1 ♀; 8 Nov. 1999, 1 ♀, [Malaise trap]; 29 Mar. 1999, 1 ♀, [Malaise trap]; 2 Aug. 2000, 1 ♀, [Malaise trap]; 12 Sept. 2000, 1 ♀, [Malaise trap]; 12 Oct. 2000, 1 ♀, [Mal-

- aise trap]; 24 Oct. 2000, 4 ♀, 3 ♂, [Malaise trap]; 27 Nov. 2000, 2 ♀, 2 ♂ [Malaise trap]; 12 Dec. 2000, 2 ♂, [Malaise trap]; 16 Jan. 2001, 1 ♀, 5 ♂, [Malaise trap]; 29 Jan.–12 Feb. 2001, 1 ♀, [Malaise trap]; 16–30 July 2001, 1 ♂, [Malaise trap] (GSNP); 10 Sept. 2001, 1 ♂, [Malaise trap] (GSNP); 15 Oct.–5 Nov. 2001, 1 ♂, [Malaise trap] (GSNP). Site SE-5: 6 Sept. 1940, 13 ♀, 5 ♂, on *Castanea* sp. (GSNP). Site SE-11: 23 Oct.–6 Nov. 2000, 3 ♀, 3 ♂, [Malaise trap]; 6 Nov. 2000, 1 ♀, 1 ♂, [Malaise trap] (GSNP); 21 June–5 July 2001, 1 ♂, [Malaise trap] (GSNP); 13–27 Oct. 2001, 1 ♀, 2 ♂, [Malaise trap] (GSNP). Site SE-12: 10 Nov. 2000, 2 ♀, 1 ♂, [Malaise trap]; 14 Feb. 2001, 1 ♀, [Malaise trap]; 28 Mar.–9 Apr. 2001, 1 ♀, [Malaise trap] (GSNP). Site SE-13: 10 Nov. 2000, 1 ♀, 1 ♂, [Malaise trap] (GSNP); 26 Sept.–24 Oct. 2001, 1 ♂, [Malaise trap] (GSNP). Site SE-14: 1 Oct. 1986, 9 ♀, 11 ♂, 7 nymphs, on *C. dentata* (GSNP).
- Publilia concava* (Say 1824). NC: Haywood Co.: Site H-4: 29 May 1999, 1 ♂, on *Eupatorium* sp. (NCSU). Swain Co.: Site SW-1: 29 May 1999, 6 ♀, 2 ♂, on *Erigeron* sp. and sweeping; 13 Oct. 2001, 17 ♀, 5 ♂, on *Eupatorium* sp. (as Jockey-weed) and *Solidago* sp. (NCSU). Site SW-6: 29 May 1999, 9 ♀, 2 ♂, on *Eupatorium* sp., *Solidago* sp., and sweeping (NCSU). Site SW-11: 21–24 July 1964, 1 ♀ (NCSU). TN: Blount Co.: Site B-3: 28 May 1999, 1 ♀, on *Verbesina alternifolia* (NCSU). Sevier Co.: Site SE-6: 5 Sept. 1995, 1 ♀, 2 ♂, sweeping riparian vegetation (GSNP). Site SE-7: 28 May 1999, 1 ♀ (GSNP). Site SE-8: 28 May 1999, 2 ♀, 3 ♂, sweeping herbaceous plants (NCSU). Site SE-10: 28 May 1997, 1 ♂ (NCSU). [First recorded for TN in Davidson Co. (Meyer 1937)].
- Publilia reticulata* Van Duzee 1908. NC: Haywood Co.: Site H-3: 29 May 1999, 1 ♂ (NCSU). Site H-4: 29 May 1999, 2 ♀, on *Eupatorium* sp. (NCSU). Swain Co. (NEW COUNTY RECORD): Site SW-16: 9–16 June 2001, 1 ♀, [Malaise trap] (GSNP). TN: Sevier Co.: Site SE-8: 28 May 1999, 1 ♀, sweeping herbaceous plants (NCSU).
- Smilia camelus* (Fabricius 1803). NC: Swain Co. (NEW COUNTY RECORD): Site SW-1: 29 May 1999, 1 ♀, on *Quercus* sp. (NCSU).
- Spissistilus festinus* (Say 1830). TN: Blount Co.: Site B-1: 11 July 1995, 1 ♂ (GSNP). Site B-10: 6 April 1995, 2 ♂; 24 May 1995, 1 ♂; 10 June 1995, 1 ♂ (GSNP).
- Stictocephala brevitylus* (Van Duzee 1908). NC: Haywood Co.: Site H-3: 29 May 1999, 2 ♀, on *Quercus* sp. (NCSU). Site H-4: 29 May 1999, 1 ♀, 1 ♂, on *Sambucus canadensis* L., sweeping weeds (NCSU). Site H-5: 29 May 1999, 3 ♀, 2 ♂, on *Q.* sp. (NCSU). Site H-8: 29 May 1999, 1 ♀, on *Ostrya virginiana* (NCSU). Swain Co.: Site SW-1: 29 May 1999, 6 ♀, 4 ♂, on *Erigeron* sp., *Q.* sp., *Robinia pseudoacacia*, and sweeping; 14 June 2000, 3 ♀, on *R. pseudoacacia* (NCSU). Site SW-6: 29 May 1999, 5 ♀, 3 ♂, *Eupatorium capillifolium* (Lam.) Small and *E.* sp. (NCSU). Site SW-11: 21–24 July 1964, 1 ♀ (NCSU). Site SW-12: 10 July 1980, 1 ♂ (GSNP). Site SW-15: 9–16 June 2001, 1 ♂, [Malaise trap] (GSNP). Site SW-16: 9–16 June 2001, 1 ♂, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 1 ♀, 1 ♂, on *Rubus* sp. (NCSU). Site B-4: 15 June 2000, 3 ♀, on *R. pseudoacacia* (NCSU). Site B-7: 28 May 1999, 1 ♀, 1 ♂, on *Gleditsia triacanthos* L., sweeping (NCSU). Site B-10: 10 June 1995, 1 ♀ (GSNP). Sevier Co.: Site SE-4: 9 May 1995, 1 ♀ (GSNP). Site SE-8: 28 May 1999, 1 ♀, sweeping herbaceous plants (NCSU).
- Stictocephala diceros* (Say 1824). NC: Haywood Co.: Site H-1: 20 July 1995, 1 ♂ (GSNP). TN: Sevier Co.: Site SE-2: 15 Aug. 1947, 1 ♂ (GSNP).
- Stictocephala lutea* (Walker 1851). NC:

- Haywood Co.: Site H-1: 16 May 1995, 1 ♀, 1 ♂ (GSNP). Swain Co. (NEW COUNTY RECORD): Site SW-3: 14 June 2000, 2 ♀, 1 ♂, on *Quercus* sp. (NCSU). TN: Blount Co.: Site B-6: 28 May 1999, 1 ♀, sweeping herbaceous plants (NCSU). Site B-19: 15 May 1995, 2 ♀, 1 ♂, on *Q. velutina*; 26 May 1995, 3 ♀, on *Q. velutina* and *Quercus* sp. (GSNP). Sevier Co.: Site SE-4: 25 May 2000, 1 ♂, [Malaise trap] (GSNP). Site SE-9: 17 June 1995, 1 ♀ (GSNP).
- Stictocephala militaris* (Gibson and Wells 1917). TN (NEW STATE RECORD): Blount Co.: Site B-22: 20 Aug. 1999, 5 ♂, moth trap—blacklighting (GSNP).
- Telamona collina* (Walker 1851). Fig. 3. NC: Haywood Co. (NEW COUNTY RECORD): Site H-9: 9 June 1995 [found dead], 1 [sex ?] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-6: 28 May 1999, 1 nymph, on *Platanus occidentalis* (NCSU). Site B-7: 28 May 1999, 1 ♂, 1 nymph, on *P. occidentalis* (NCSU). Sevier Co.: Site SE-4: 22 June 1999, 1 ♀, 1 ♂, [Malaise trap]; 4 July 1999, 1 ♀, [Malaise trap] (GSNP).
- Telamona decorata* Ball 1903. TN (NEW STATE RECORD): Blount Co.: Site B-3: 28 May 1999, 1 ♂, on *Quercus stellata* (NCSU). Site B-19: 31 May 1994, 1 ♂, on *Q. rubra*, insecticidal fogging (GSNP). Sevier Co.: Site SE-4: 27 Nov. 2000, 1 ♀, [Malaise trap] (GSNP).
- Telamona maculata* Van Duzee 1908. NC: Swain Co. (NEW COUNTY RECORD): Site SW-14: 30 June to 7 July 2001, 1 ♂, [Malaise trap] (GSNP).
- Telamona monticola* (Fabricius 1803). NC: Haywood Co. (NEW COUNTY RECORD): Site H-10: 17 June 1993, 2 ♂, 1 ♀, 1 [sex ?], on *Quercus rubra*, insecticidal fogging (ECUT, GSNP); 17 June 1994, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT). TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 1 ♀, on *Q. alba* (NCSU). Site B-5: 15 June 2000, 1 ♀, 1 ♂, on *Q. stellata* and *Robinia pseudoacacia* (NCSU). Site B-9: 14 June 2000, 1 ♂, on *Q.* sp. (NCSU). Cocke Co.: Site C-3: 18 May 2000, 1 ♀, 1 ♂ (GSNP).
- Telamona reclinata* Fitch 1851. NC: Swain Co. (NEW COUNTY RECORD): Site SW-2: 1 Sept. 1992, 1 ♀, on *Quercus rubra*, insecticidal fogging (ECUT).
- Telamona unicolor* Fitch 1851. TN (NEW STATE RECORD): Blount Co.: Site B-2: 28 May 1999, 1 ♂, on *Carya* sp. (NCSU). Site B-6: 28 May 1999, 1 ♀, on *C.* sp. (NCSU).
- Thelia bimaculata* (Fabricius 1794). Fig. 6. NC: Swain Co.: Site SW-8: [no date], 1 ♀ (GSNP). TN: Blount Co.: Site B-4: 15 June 2000, 2 ♀, 1 ♂, on *Robinia pseudoacacia* (NCSU). Site B-12: 15 June 2000, 1 ♀, 1 ♂, on *R. pseudoacacia* (NCSU). Site B-18: 1 Sept. 1988, 1 ♂ (GSNP). Sevier Co.: Site SE-2: 2 Sept. 1937, 1 ♀ (GSNP). Site SE-4: 3 July 1995, 1 ♀ (GSNP). Site SE-15: 11 Aug. 1947, 1 ♂ (USNM).
- Tortistilus abnormus* (Caldwell 1949). TN (NEW STATE RECORD): Blount Co.: Site B-2: 15 June 2000, 2 ♂, on *Quercus* sp., sweeping (GSNP, NCSU).
- Tortistilus inermis* (Fabricius 1775). TN: Blount Co.: Site B-16: 15 June 2000, 2 ♂, sweeping (GSNP, NCSU).
- Tylopelta gibbera* (Stål 1869). NC: Swain Co.: Site SW-11: 21–24 July 1964, 1 ♀, 2 ♂ (GSNP, NCSU). TN: Sevier Co.: Site SE-2: 15 Aug. 1947, 1 ♀ (USNM).
- Vanduzea arquata* (Say 1830). NC: Swain Co.: Site SW-1: 28 May 1999, 1 [sex ?], 70 nymphs [ethanol], on *Robinia pseudoacacia*; 14 June 2000, 15 ♀, 2 ♂, on *R. pseudoacacia*; 13 Oct. 2001, 1 ♂, on *Q. alba?* (NCSU). Site SW-3: 14 June 2000, 4 ♀, 1 ♂, on *R. pseudoacacia* (NCSU). Site SW-4: 29 May 1999, 2 nymphs, on *R. pseudoacacia* (NCSU). Site SW-8: [no date], 2 ♀ (GSNP). TN: Blount Co.: Site B-2: 28 May 1999, 2 ♀, 7 ♂, [1 ♀, 1 ♂, and 10 nymphs in ethanol], on *R. pseudoacacia* (NCSU). Site B-10: 20 July 1995, 1 ♂ (GSNP). Site B-12: 15 June 2000, 3 ♀, 6 ♂, on *R. pseu-*

doacacia (NCSU). Site B-19: 7 July 1995, 1 ♀ (GSNP). Sevier Co.: Site SE-4: 8 July 1995, 1 ♀ (GSNP); 15 Oct. 2001, 7 ♀, 1 ♂, 2 nymphs, on *R. pseudoacacia* (NCSU). Site SE-8: 28 May 1999, 1 ♂, on *R. pseudoacacia* (NCSU).

Xantholobus intermedius (Emmons 1854). NC: Haywood Co. (NEW COUNTY RECORD): Site H-10: 17 June 1994, 5 ♀, 2 ♂, on *Quercus rubra*, insecticidal fogging; 1 July 1994, 3 ♀, 1 [sex?], on *Q. rubra*, insecticidal fogging (ECUT, GSNP). Swain Co. (NEW COUNTY RECORD): Site SW-2: 1 Sept. 1992, 1 ♀, on *Q. rubra*, insecticidal fogging; 9 July 1993, 1 ♂, on *Q. rubra*, insecticidal fogging; 10 June 1994, 1 ♀, 1 ♂, on *Q. rubra*, insecticidal fogging; 28 June 1994, 1 ♀, 4 ♂, on *Q. rubra*, insecticidal fogging; 15 July 1994, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT, GSNP). Site SW-17: 3–17 July 2001, 1 ♀, [Malaise trap] (GSNP). Site SW-18: 6–25 June 2001, 1 ♀, [Malaise trap] (GSNP). TN (NEW STATE RECORD): Blount Co.: Site B-19: 31 May 1994, 2 ♀, on *Q. rubra*, insecticidal fogging; 26 Aug. 1994, 1 ♀, on *Q. rubra*, insecticidal fogging (ECUT).

Xantholobus lateralis Van Duzee 1908. TN (NEW STATE RECORD): Blount Co.: Site B-19: 15 May 1995, 1 ♀, on *Quercus velutina* (GSNP).

Xantholobus muticus (Fabricius 1777). TN (NEW STATE RECORD): Blount Co.: Site B-5: 15 June 2000, 1 ♀, on *Quercus* sp. (NCSU).

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